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=> d l1

L1 HAS NO ANSWERS

L1 STF

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=> s l1 sss full FULL SEARCH INITIATED 17:39:18 FILE 'REGISTRY' FULL SCREEN SEARCH COMPLETED - 103947 TO ITERATE

100.0% PROCESSED 103947 ITERATIONS SEARCH TIME: 00.00.03

4893 ANSWERS

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L3 STRUCTURE UPLOADED

=> d 13

L3 HAS NO ANSWERS

L3 STF

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

Structure attributes must be viewed using STN Express query preparation.

=> s l3 sss full

FULL SEARCH INITIATED 17:42:10 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 281185 TO ITERATE

100.0% PROCESSED 281185 ITERATIONS

3150 ANSWERS

SEARCH TIME: 00.00.04

L4 3150 SEA SSS FUL L3

=> file caplus

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FULL ESTIMATED COST

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L5 5501 L2

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L8 STRUCTURE UPLOADED

=> s 18 sss full FULL SEARCH INITIATED 17:46:09 FILE 'REGISTRY' FULL SCREEN SEARCH COMPLETED - 28541 TO ITERATE

100.0% PROCESSED 28541 ITERATIONS SEARCH TIME: 00.00.01

93 ANSWERS

349.01

L9 93 SEA SSS FUL L8

=> file caplus COST IN U.S. DOLLARS

FULL ESTIMATED COST

SINCE FILE TOTAL ENTRY SESSION 172.10 521.11

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Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at: http://www.cas.org/infopolicy.html => s 19L10 54 L9 => d his (FILE 'HOME' ENTERED AT 17:38:09 ON 16 SEP 2007) FILE 'REGISTRY' ENTERED AT 17:38:28 ON 16 SEP 2007 L1STRUCTURE UPLOADED L24893 S L1 SSS FULL L3 STRUCTURE UPLOADED L43150 S L3 SSS FULL FILE 'CAPLUS' ENTERED AT 17:42:29 ON 16 SEP 2007 L5 5501 S L2 L6 7837 S L4 91 S L5 AND L6 L7 FILE 'REGISTRY' ENTERED AT 17:45:33 ON 16 SEP 2007 L8 STRUCTURE UPLOADED L9 93 S L8 SSS FULL FILE 'CAPLUS' ENTERED AT 17:46:21 ON 16 SEP 2007 L10 54 S L9 => s 17 and 110 L11 4 L7 AND L10 => d l11 ibib ab hitstr tot L11 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2007 ACS on STN ACCESSION NUMBER: 2004:857685 CAPLUS DOCUMENT NUMBER: 141:331639 TITLE: Synthesis of 3-substituted 4-aminobenzenesulfonamides, intermediates in benzophenone reverse transcriptase inhibitor preparation INVENTOR(S): Martin, Michael Tolar PATENT ASSIGNEE(S): Smithkline Beecham Corporation, USA SOURCE: PCT Int. Appl., 17 pp. CODEN: PIXXD2 DOCUMENT TYPE: Patent LANGUAGE: English FAMILY ACC. NUM. COUNT:

PATENT NO.				KIND		DATE			APPLICATION NO.					DATE		
				A2 20041014 A3 20041111			WO 2004-US9375						20040326			
W:	CN, GE, LK, NO, TJ, BW, BY,	CO, GH, LR, NZ, TM, GH, KG,	CR, GM, LS, OM, TN, GM, KZ,	CU, HR, LT, PG, TR, KE, MD,	CZ, HU, LU, PH, TT, LS, RU,	AU, DE, ID, LV, PL, TZ, MW, TJ,	DK, IL, MA, PT, UA, MZ, TM,	DM, IN, MD, RO, UG, SD, AT,	DZ, IS, MG, RU, US, SL, BE,	EC, JP, MK, SC, UZ, SZ, BG,	EE, KE, MN, SD, VC, TZ, CH,	EG, KG, MW, SE, VN, UG, CY,	ES, KP, MX, SG, YU, ZM, CZ,	FI, KR, MZ, SK, ZA, ZW, DE,	GB, KZ, NA, SL, ZM, AM, DK.	GD, LC, NI, SY, ZW AZ, EE.

PATENT INFORMATION:

SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG EP 2004-758431 EP 1628953 20060301 A2 20040326 AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK JP 2006521402 Т 20060921 JP 2006-509365 20040326 US 2006183944 Α1 20060817 US 2005-550255 20050922 PRIORITY APPLN. INFO.: US 2003-458144P P 20030327 WO 2004-US9375 20040326 OTHER SOURCE(S): CASREACT 141:331639; MARPAT 141:331639 The present invention is directed to processes for the synthesis of intermediates useful in the preparation of non-nucleoside reverse transcriptase inhibitors. Thus, 3-substituted 4-aminobenzenesulfonic acid is reacted with DMF and a chlorinating agent to form the N-protected sulfonyl chloride which is reacted with ammonia to form the protected sulfonamide. This compound is deprotected to prepare the 3-substituted 4: aminobenzenesulfonamide, which is useful in preparation of benzophenone derivs. IT 98-33-9, 4-Amino-3-methylbenzenesulfonic acid RL: RCT (Reactant); RACT (Reactant or reagent) (synthesis of 3-substituted 4-aminobenzenesulfonamides, intermediates in benzophenone reverse transcriptase inhibitor preparation) RN98-33-9 CAPLUS CN Benzenesulfonic acid, 4-amino-3-methyl-(CA INDEX NAME)

RN 770736-84-0 CAPLUS
CN Benzenesulfonamide, 4-[[(dimethylamino)methylene]amino]-3-methyl- (9CI)
(CA INDEX NAME)

L11 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

1973:97226 CAPLUS

DOCUMENT NUMBER:

78:97226

TITLE:

Sulfonohydrazides and related compounds.

Sulfanilohydrazides

AUTHOR (S):

Cremlyn, Richard J. W.; Leonard, David; Motwani,

Ramesh

CORPORATE SOURCE:

SOURCE:

Dep. Chem. Sci., Hatfield Polytech., Hatfield, UK Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999)

(1973), (5), 500-3

CODEN: JCPRB4; ISSN: 0300-922X

DOCUMENT TYPE:

Journal English

LANGUAGE:

p-NH2CONHC6H4SO2NHNH2 (I) with ketones and aldehydes gave the hydrazones. (PhNH) 2CO with ClsO3H followed by N2H4 gave (p-NH2NHO2SC6H4NH) 2CO, which reacted analogously to I. Similar chlorosulfonation of di-o, -p-. and -m-tolylureas gave disulfonic acids. p-Succinimidobenzenesulfonyl chloride with NH2NH2.H2O gave p-H2NNHCO(CH2)2CONHC6H4SO2NHNH2 by ring cleavage.

ΙT 40686-05-3P 40686-07-5P

> RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)

40686-05-3 CAPLUS

RN

CNBenzenesulfonic acid, 4,4'-(carbonyldiimino)bis[3-methyl- (9CI) (CA INDEX NAME)

RN40686-07-5 CAPLUS

CN Benzenesulfonamide, 4,4'-(carbonyldiimino)bis[3-methyl- (9CI) (CA INDEX NAME)

L11 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

1968:114214 CAPLUS

DOCUMENT NUMBER:

68:114214

TITLE:

Contrast media. III. Iodine derivatives of

substituted sulfanilamides

AUTHOR(S):

Radek, Otto; Kejha, Jiri; Nemecek, Oldrich; Kakac,

Bohumil

CORPORATE SOURCE:

Res. Inst. Pharm. Biochem., Prague, Czech.

SOURCE:

Cesko-Slovenska Farmacie (1967), 16(1), 34-8

CODEN: CKFRAY; ISSN: 0009-0530

DOCUMENT TYPE:

Journal

LANGUAGE:

Czech

Sulfonamides serving as starting material for the title compds. were prepared by treatment of 4-acetamidobenzenesulfonyl chloride (I, R1 = Cl, R2 = R4 = H, R3 = NHAc) with various primary and secondary amines; some of them were new. The AcNH group was hydrolyzed with aqueous HCl and 4-aminobenzenesulfonamides were iodinated by ICl, KICl2, or NaICl2 to give the I shown in the table. Thus 22.0 g. I (R1 = NMe2, R2 = R4 = H, R3 = NH2 (Ia) was dissolved in 1200 ml. H2O and 60 ml. HCl at 60°, the solution cooled to 20°, and 110 ml. 2M KIC12 added. [TABLE OMITTED] After a while an orange-yellow substance precipitated and the mixture was stirred

for 6 hrs. at 20° to give II. Ia (140 g.) was dissolved in 720 ml. H2O and 80 ml. HCl at 60°, the solution cooled to 40°, and 33 ml. 75% ICl in HCl added. The mixture was heated up to 90° during 1 hr. and kept for 5 hrs. to give III. I (R1 = NEt2, R2 = R4 = H, R3 = NH2)(20.52 g.) was dissolved in 1080 ml. H2O and 30 ml. HCl at 70°, cooled to 20°, and 100 ml. 2M NaICl2 was added. The mixture was stirred for 6 hrs. to give IV. Iodinated derivs. containing NHCONH2 could not be prepared and on attempted reaction of 4-ureidobenzenesulfonic acid or amide with ICl only 4-amino derivs. were obtained. The acylated 3,5-diiodo derivs. of sulfanilic acid are generally rather unstable; e.g. the acetyl group is lost from I (R1 = OH, R2 = R4 = I, R4 = NHAc) on attempted recrystn. III showed an antibacterial activity comparable with that of sulfadimidine, and compds. V and VI passed into gall bladder thus enabling its roentgenographic investigation.

13192-25-1P 18229-71-5P 18229-72-6P IT

RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)

RN13192-25-1 CAPLUS

CN Benzenesulfonic acid, 4-(acetylamino)-3,5-diiodo-, monosodium salt (9CI) (CA INDEX NAME)

Na

CN

RN18229-71-5 CAPLUS

> Sulfanilic acid, N-[(dimethylamino)methylene]-3,5-diiodo- (8CI) NAME)

RN18229-72-6 CAPLUS

CN Sulfanilamide, N4-[(dimethylamino)methylene]-3,5-diiodo- (8CI) (CA INDEX

$$\begin{array}{c|c}
O & & & \\
H_2N-S & & & I \\
O & & & N \longrightarrow CH-NMe_2
\end{array}$$

L11 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

1960:129053 CAPLUS

DOCUMENT NUMBER:

54:129053

ORIGINAL REFERENCE NO .:

54:24766h-i,24767a-i,24768a-c

TITLE:

Quinazolinone sulfonamides. A new class of diuretic

AUTHOR (S):

Cohen, Elliott; Klarberg, Betty; Vaughan, James R.,

CORPORATE SOURCE:

Am. Cyanamid Co., Pearl River, NY

SOURCE:

Journal of the American Chemical Society (1960), 82,

2731-5

CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE:

Journal

LANGUAGE:

Unavailable

OTHER SOURCE(S):

CASREACT 54:129053

A series of 7-chloro-6-sulfamoyl-4(3H)-quinazolinones and 7-chloro-6-sulfamoyl-1,2,3,4-tetrahydro-4-quinazolinones were prepared and found to have a diuretic activity equal to or better than the benzothiadiazine 1,1-dioxides in exptl. animals. 4,2-Cl(H2N)C6H3CO2H(I) (17.2 g.) in 15 cc. 30% cold oleum treated dropwise with 11.6 g. ClsO3H, the mixture heated 2.75 hrs. at 95-100° and 2 hrs. at 175-80° cooled to room temperature, poured onto 300 g. crushed ice, stirred, and filtered yielded 20.0 g. 5-SO3H derivative (II) of I, pale yellow, m. above 360° (decomposition) (hot H2O). II (20.0 g.), 200 cc. 98% HCO2H, and 20.0 g. HCO2Na heated 2 hrs. on the steam bath and evaporated, the residue triturated with a small amount of iced H2O, refrigerated 1 hr., and filtered yielded 11.4 g. N-CHO derivative (III) of II, m. above 360° (aqueous dioxane). III (1.0 g.), 10 cc. POCl3, and 1.5 g. PCl5 heated 5 hrs. on the steam bath, cooled, and poured onto ice gave the 5-SO2Cl analog of III. 5,2-ClMeC6H3NHAc (IV) (58 g.) and 100 cc. cold ClSO3H containing 17 g. NaCl heated 2 hrs. on the steam bath, cooled, poured onto 500 g. ice, stirred, filtered, the residue added to 500 cc. concentrated NH4OH, this heated 0.5 hr. with stirring to solution, kept 0.5 hr., filtered, the residue dissolved in aqueous NaOH, treated with C, and repptd. with concentrated HCl

40 g. 4-SO2NH2 derivative (V) of IV, m. above  $265^{\circ}$ , and 6.0 g. NaOH-insol. crystals; the NH4OH filtrate concentrated gave 13 g. crystals, apparently the NH4 salt of the 4-SO3H derivative of V. V (40 g.) added in portions to 50 g. KMnO4 in 500 cc. warm H2O, the mixture heated 1.5 hrs. on the steam bath, cooled, filtered, the residue washed with 50 cc. dilute aqueous NaOH, the combined filtrates treated with C, acidified, and cooled overnight gave 14 g. 5,2,4-Cl(HO2C)(H2NO2S)C6H2NHAC (VI), m. 254-6°. VI (10 g.) dissolved with warming and stirring in 200 cc. EtOH and 200 cc. HCl, the mixture heated 0.5 hr. on the steam bath, cooled, concentrated in vacuo to near dryness, dissolved in 20 cc. N NaOH, clarified with C, acidified to Congo red, cooled overnight, and filtered gave 5.5 g. 5,2,4-Cl(HO2C)(H2NO2S)C6H2NH2 (VII), m. 275°; yields of 90% were obtained by saponification with 3N NaOH. VII (2 g.) and 2 g. EtCONH2 heated 4 hrs. at 185-90°, the mixture stirred 1 hr. with cooling with 10% aqueous NaHCO3, filtered, the residue dissolved in 20 cc. N NaOH, treated with C, and acidified with concentrated HCl gave 1 g.

7-chloro-2-ethyl-6-sulfamoyl-4(3H)-

quinazolinone (VIII), m. above 250°. VI (1.0 g.) and 1.0 g. H2NCO2Et heated 3 hrs. at 180-90°, cooled, treated with 10 cc. 10% aqueous NaHCO3, the mixture stirred 1 hr., filtered, the residue dissolved in 5 cc. N NaOH, washed with EtOAc and Et2O, treated with C, and repptd. with concentrated HCl yielded 2-Me homolog (IX) of VIII. VII, Bu3N (or Et3N), and ClCO2Et (equivalent molar amts.) stirred 5-10 min. at -5 to -10°, the mixture treated with excess aqueous or liquid NH3, stirred 10-30 min. in the cold and 10-30 min. on the steam bath, evaporated, the residue diluted with

H20,

the mixture filtered, the filter residue stirred with aqueous NaHCO3 to remove 50-70% VII, and the insol. solid recrystd. from EtOH yielded 20-30% 4,2,5-Cl(H2N)-(H2NO2S)C6H2CONH2 (X), m. 282-4° (decomposition); an increase in reaction temperature caused the formation of 2,4,5-Cl(H2NCONH)(HO2C)C6H2SO2NH2, m. 218°. VI converted to the glycol or Me ester and then amidated gave X. X (1.0 g.) in 100 cc. EtOH refluxed 1 hr. with 2 drops concentrated HCl and 0.70 cc. EtCH(OEt)2, the mixture evaporated in

vacuo, and the residue triturated with 25 cc. H2O yielded 0.90 g. 7-chloro-2-ethyl-6-sulfamoyl-1,2,3,4-tetrahydro-4-quinazolinone (XI), m. 250-2° (aqueous Me2CO). NaCl (0.30 g.) and 3.0 cc. cold ClSO3H treated dropwise with cooling with 1.0 g. 5,2-ClMeC6H3NH2, the mixture heated 2 hrs. at 145°, cooled, poured on ice, filtered, the residue added to liquid NH3, the solution evaporated at room temperature, the crude product g.)

dissolved in 1.0N NaOH, the solution treated with HCl, and repptd. with HCl yielded 2,5,4-ClMe(H2N)C6H2SO2NH2, m. 242-4° (aqueous EtOH). VII (1.0 g.) and 50 cc. (EtCO)20 heated 3 hrs. on the steam bath, poured into 200 cc. iced H2O, stirred, and filtered gave 0.65 g. 2,5,4-ClMe(EtCONH)C6H2SO2NHCOEt.0.5H2O, m. 237-8° (with effervescence). VII (5.0 g.) and 5 cc. HCONH2 heated 3.5 hrs. at 170-5°, the mixture cooled, poured into 25 cc. cold H2O, and triturated with MeOH yielded 1.8 g. crude product, which dissolved in 0.1N NaOH, treated with C, and repptd. with HCl gave 7-chloro-6-sulfamoyl-4(3H)-quinazolinone (XII), m. 310-15°. VII (1.0 g.) and 1.0 cc. HCONHMe heated 4 hrs. at 175-80° the mixture cooled, triturated with 5 cc. MeOH, filtered, the residue stirred with 5 cc. 10% aqueous NaHCO3, dissolved in 0.1N NaOH, treated with C, and repptd. with HCl gave 0.25 g. 3-Me derivative (XIII) of XII. VII (0.5 g.) and 0.5 cc. AcNHMe heated 4 hrs. at 195-200°, the mixture cooled, triturated with MeOH, diluted with 5 cc. H2O, refrigerated overnight, the solid (0.50 g.) stirred with 10% aqueous NaHCO3, filtered, and repptd. in the usual manner yielded 2,3-di-Me derivative (XIV) of XII, m. 245°. VII (2.5 g.) and 2.5 g. iso-PrCONH2 heated 3.5 hrs. at 190° dissolved in hot MeOH, concentrated slightly, diluted with H2O, filtered, and the residue (1.0 g.) stirred with aqueous NaHCO3 and purified in the usual manner yielded 0.20 g. 2-iso-Pr derivative (XV) of XII, needles, m. VII (0.50 g.) and 0.50 g. urea heated 3 hrs. at 180°, cooled, stirred with 10% aqueous NaHCO3, filtered, and the residue (0.30 g.) purified in the usual manner gave 0.15 g. 7-chloro-2,4-dihydroxy-6sulfamoylquinazoline (XVI), m. 275°. XII (2.0 g.) added with warming to 1.03 g. AlCl3 in 250 cc. dry diglyme, the mixture treated dropwise with 1.4 g. NaBH4 in 70 cc. dry diglyme, kept 1 hr. at 85°, cooled, treated slowly with 40 cc. H2O, acidified, evaporated, and

the residue triturated with cold H2O yielded 0.90 g. 1,2,3,4-tetrahydro derivative (XVII) of XII, m. 256-8°.. Similarly were prepared the tetrahydro derivs. of the following compds. (% yield and m.p. given): IX (XVIII), 60 (73% from X), 285°; XIII, 25, 257-9°; XIV, 47, 233-5°; XV, 60, 230°; Bu derivative of XVII.0.25H2O, 70 (from X with BuCHO in diglyme), 219°. The average % change from the control in electrolyte excretion in dogs (orally) was determined for the following compds. (dose administered in mg./kg., % chloride and % potassium excretion during 24 hrs. given): chlorothiazide, 20, 266, 112; XII, 20, 261, 98; IX, 20, 223, 76; dihydrochlorothiazide (XIX), 1,201, 57; XIX, 5, 374, 122; XVIII, 1,150, 9; XVIII, 5, 360, 58; XVII, 1, 49, 22; XVII, 5, 212, 24; XI, 1,215, 101; XI, 5,291, 32. 3086-91-7P, Anthranilic acid, 4-chloro-5-sulfamoyl-17560-53-1P, o-Acetotoluidide, 5-chloro-4'-sulfamoyl-17560-54-2P, Anthranilic acid, N-acetyl-4-chloro-5-sulfamoyl-21501-33-7P, Anthranilic acid, N-carbamoyl-4-chloro-5-sulfamoyl-34121-17-0P, Benzamide, 2-amino-4-chloro-5-sulfamoyl-64174-54-5P, Anthranilic acid, 4-chloro-5-sulfo-72629-59-5P, m-Toluenesulfonamide, 4-amino-6-chloro-98557-08-5P, Sulfanilic acid, 2-chloro-5-(chloroformyl)-N-formyl-98557-46-1P, Anthranilic acid, 4-chloro-N-formyl-5-sulfo-99233-57-5P, m-Toluenesulfonic acid, 4-acetamido-6-chloro-RL: PREP (Preparation) (preparation of) 3086-91-7 CAPLUS Benzoic acid, 2-amino-5-(aminosulfonyl)-4-chloro- (9CI)

$$H_2N-S$$
 $C1$ 
 $NH_2$ 
 $CO_2H$ 

IT

RN

CN

RN 17560-53-1 CAPLUS
CN Acetamide, N-[4-(aminosulfonyl)-5-chloro-2-methylphenyl]- (9CI) (CA INDEX NAME)

RN 17560-54-2 CAPLUS CN Benzoic acid, 2-(acetylamino)-5-(aminosulfonyl)-4-chloro- (9CI) (CA INDEX NAME)

RN 21501-33-7 CAPLUS

CN Benzoic acid, 2-[(aminocarbonyl)amino]-5-(aminosulfonyl)-4-chloro- (9CI) (CA INDEX NAME)

C1 
$$NH-C-NH_2$$
 $H_2N-S$   $CO_2H$ 

RN 34121-17-0 CAPLUS

CN Benzamide, 2-amino-5-(aminosulfonyl)-4-chloro- (9CI) (CA INDEX NAME)

$$\begin{array}{c|c} & \text{Cl} & \text{NH}_2 \\ \text{O} & \text{H}_2 \text{N} - \text{S} & \text{C} - \text{NH}_2 \\ \text{O} & \text{O} & \text{O} \end{array}$$

RN 64174-54-5 CAPLUS

CN Benzoic acid, 2-amino-4-chloro-5-sulfo- (9CI) (CA INDEX NAME)

RN 72629-59-5 CAPLUS

CN Benzenesulfonamide, 4-amino-2-chloro-5-methyl- (9CI) (CA INDEX NAME)

$$\begin{array}{c|c} O & \\ \parallel & \\ H_2N-S & \\ \parallel & \\ O & \\ C1 & \\ NH_2 \end{array}$$

RN 98557-08-5 CAPLUS

CN Sulfanilic acid, 2-chloro-5-(chloroformyl)-N-formyl- (6CI) (CA INDEX NAME)

RN 98557-46-1 CAPLUS CN Anthranilic acid, 4-chloro-N-formyl-5-sulfo- (6CI) (CA INDEX NAME)

RN 99233-57-5 CAPLUS
CN m-Toluenesulfonic acid, 4-acetamido-6-chloro- (6CI) (CA INDEX NAME)